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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/884,037	06/20/2001	Hiroyuki Sasai	2001_0883A	2716

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EXAMINER	
BELLO, AGUSTIN	
ART UNIT	**PAPER NUMBER**
2633	

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/884,037	SASAI ET AL.	
	Examiner	Art Unit	
	Agustin Bello	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 November 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *11* is/are pending in the application.

4a) Of the above claim(s) _ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 June 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2/18/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art admitted by the applicant shown in Figure 8 of the instant application in view of Price (U.S. Patent No. 6,552,439).

Regarding claim 11, the prior art admitted by the applicant shown in Figure 8 of the instant application teaches a radio-frequency transmitter (Figure 8) with a function of distortion compensation (page 2 lines 3-4 of the specification), comprising: a branch part (reference numeral 110 in Figure 8) for branching an electrical signal into two; a delay part (reference numeral 510 in Figure 8) for delaying one of the electrical signal branched by said branch part by a predetermined length of time, a distortion generating part (reference numeral 520 in Figure 8) for generating, from the other of the electrical signals branched by said branch part, a distortion component of a predetermined phase and amplitude (page 3 lines 8-13 of the specification); a combiner (reference numeral 710 in Figure 8) for combining the electrical signal outputted from said delay part (reference numeral 510 in Figure 8) and the distortion component outputted from said distortion generating part (reference numeral 520 in Figure 8); a frequency conversion part (reference numeral 720 in Figure 8) for converting a signal into a predetermined frequency; and a radio-frequency optical transmission part (reference numeral 710 in Figure 8) for converting a

resulting signal converted into the predetermined frequency by said frequency conversion part into an optical signal; wherein the distortion component generated in said distortion generating part is opposite in phase to a distortion component occurred in said radio-frequency optical transmission part (page 3 lines 10-13 of the specification). The prior art admitted by the applicant shown in Figure 8 differs from the claimed invention in that it fails to specifically teach that the frequency conversion part converts a resulting signal outputted from said combiner prior to conversion from an electrical signal to an optical signal. In contrast, the prior art admitted by the applicant shown in Figure 8 teaches a frequency converter for converting a signal into a predetermined frequency at the input of the splitter combiner pair, hence resulting in a structural difference between the prior art shown in Figure 8 and the claimed invention shown in Figure 7. However, Price, in the same field of predistortion generation, teaches it is well known in the art to convert the frequency of a signal (e.g. conversion from frequency Λ_{BD} to frequency Λ_{eD} by frequency converter 46 in Figure 8(b)) prior to conversion from an electrical signal to an optical signal, wherein the electrical signal has been pre-compensated in a manner similar to that claimed by the applicant. One skilled in the art would have been motivated to convert the frequency of a signal prior to conversion from an electrical signal to an optical signal in order to match the frequency of the signal to the data rate being transmitted (column 7 lines 57-59 of Price). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to place the frequency conversion part of the prior art admitted by the applicant in Figure 8 between the output of the combiner and the input of the radio-frequency optical transmission part in order to match the frequency of the resulting signal output from the combiner to the data rate being transmitted as taught by Price.

Response to Arguments

3. Applicant's arguments filed 11/2/04 have been fully considered but they are not persuasive. The applicant argues that the reworded claims distinguish the claimed invention over the prior art. However, the examiner disagrees. The examiner maintains that the combination of the prior art cited by the applicant and Price teach the limitations of the claimed invention in that the combination of references disclose all the relevant elements of the claimed invention. Furthermore, the possibility exists that the frequency conversion part 720 of the prior art cited by the applicant simply converts the IF input to another intermediate frequency. Moreover, the elements of the combination of references produce the same result as that of the claimed invention. Simply converting the IF frequency to another frequency prior to conversion of the radio signal to an optical signal rather than at the input of the system does not present patentable subject matter.

4. In response to applicant's argument that elements of the claimed invention are operable to branch, operable to delay, operable to generate, operable to combine, and operable to convert, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 312 F.2d 937, 939, 136 USPQ 458, 459 (CCPA 1963).

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Agustin Bello whose telephone number is (571) 272-3026. The examiner can normally be reached on M-F 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AB

A. Bello

AGUSTIN BELLO
PATENT EXAMINER
4/20/05